WHAT IS CLAIMED:

1.   Apparatus for receiving signals from a control computer and for using such signals to control a lighting device, said apparatus comprising:

a parallel to serial converter for converting said signals from parallel to serial form; and

5   a lighting device microprocessor, connected to receive said parallel signals over a bus from said parallel to serial converter, to interpret said signals as commands, and to control said lighting device in accordance with said commands.

2.   Apparatus of claim 1 further comprising an edge detector circuit for performing a hardware edge detect, said edge detector not being within said lighting device microprocessor.

10   3.   Apparatus of claim 2 wherein said parallel to serial converter comprises a shift register and a preshift register, and further comprising control logic for holding data in said preshift register until said data passes error detection testing.

4.   A method of receiving and processing lighting control signals, from a central computer, at a lighting device, said method comprising performing parallel to serial conversion and error

15   detection in a hardware circuit, conveying said signals thereafter to a microprocessor, decoding said signals in said microprocessor, and controlling said lighting device with said microprocessor in response to said decoding.

5.   The method of claim 4 wherein said step of conveying comprises moving signals from a shift register to a storage register, and delaying placing any further data into said shift register

20   until after said moving in order to prevent loss of data.

6.   The method of claim 5 wherein said step of performing parallel to serial conversion is accomplished on a different circuit board from said microprocessor.

7.   A hardware device for interposing between a computer controlled lighting device and a control computer that controls said lighting hardware device, comprising means for transmitting

25   and receiving serial signals indicative of commands and data to control said lighting device,

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means for ensuring, via hardware, that said data and commands include edges at predetermined times, and means for converting said signals to parallel form and conveying said signals, in parallel form, to a microprocessor for decoding and for utilization in controlling said lighting device.

5   8.   The hardware device of claim 7 further comprising a register for storing a value with which to control said lighting device when utilizing a manual override, and wherein said device is implemented entirely on a separate circuit board from said microprocessor.

9.   The hardware device of claim 8 wherein said hardware device and said microprocessor or driven by the same clock signal.

10   10.   A method of receiving a signal from a central computer to control a lighting device, the method comprising the steps of:

        a.   Placing a portion of said signal into a preshift register, and checking said portion for errors;

        b.   shifting said portion into a shift register if said portion is error free; and

15   c.   repeating steps a and b plural times before shifting said signals out of said shift register to a lighting device.

11.   The method of claim 10 wherein said signals are shifted out of said shift register in response to commands from a separate set of arbitration control logic.

12.   The method of claim 11 wherein said arbitration control logic also controls a manual

20   override for controlling said lighting device manually.

13.   The method of claim 12 wherein a signal that is determined to have an error in the preshift register is retransmitted from said central computer to said preshift register.

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